shapes in the interim. Some of these ova resembled dumb bells in shape (except that the two balls were in close juxtaposition). Close observation showed that on the side of the spherical vitellus would appear a slight bump or projection. This would slowly grow until it had become as large as the remainder of the yolk, thus producing the dumb bell, apparently the fluid contents of the yolk would pour itself from one ball into another, and a motion similar to that of the well known Amœba would result.

The other case was that of the ova of *Anodonta imbecillis* Say, which were in the mulberry stage. These were revolving about an axis, making in some instances six complete turns per minute, while the axis was fixed for each individual, the direction of this axis bore no relation to anything that I could see, but were in every direction. Some were horizontal, others perpendicular and many oblique.

This revolution was confined to the inside of the shell. The egg as a whole remaining unmoved, neither the cause or object of this rotation could be noted or conjectured by me. Possibly when packed together in the marsupium, the motion would influence the shell, and so in a measure prevent *congestion* in the narrow gill passages.

A solution of salt would in a minute or two cause a visible contraction of the vitellus, and the stoppage of the motion. Being curious to know if alcohol would stimulate their motions I placed a drop on the slide. In an instant an appearance resembling a violent effervescence took place, and at its close every egg-shell had *burst open*! Apparently the endosmosis had so far exceeded the exosmosis as to burst the membranes.

Frierson, La., August, 1906.

SPHÆRIUM HENDERSONI N. SP.

BY V. STERKI.

Mussel large, almost equipartite, well inflated; superior margin curved, with slightly marked rounded, or no angles where passing into the supero-anterior and posterior slopes which are slightly marked; scutum and especially scutellum distinct; anterior and posterior ends rounded, the latter scarcely drawn downward; beaks near or in the middle in half-grown and adult specimens, markedly

anterior in the young, well prominent over the hinge margin, slightly inclined towards the anterior, moderately large, rounded in the adult, but with a small, more or less flattened area near the center, in some specimens bounded by a slight ridge, most noticeable in the young; surface with moderately coarse, subregular sulcation, rather sharp to shallow, rugulose, slightly shining, with one or sometimes two well-marked, dark lines of growth; color generally grayish in the adult, lighter over the beaks and with light, yellowish zones along the margins, often with dark mottlings; in some specimens there are irregular zones of bluish; shell moderately thick, substance white, muscle insertions distinct, those of the protractor pedis separated from the anterior adductors; hinge moderately stout, curved, formed rather as in *Sph. solidulum* Pr., plate narrow, cardinal teeth short and slight; ligament rather long, covered, or a narrow median line uncovered in old specimens.

Soft parts, in alcohol, pale, the syphons with a yellowish tinge; palpi large; outer branchiæ comparatively small; metapodium distinct, but rather small, with the retractor pedis; branchial cavities with numbers of young at different stages, the largest 5 mill. long, seems to be free in the cavity (not in a marsupium).

Size: long. 17.5, alt. 14, diam. 9.5 mill. (= 100 : 80 : 54.3); one specimen 18 mill. long.

Habitat: Water holes, Crow Creek, 25 miles N. E. of Greeley, Colorado, collected by Mr. Junius Henderson, curator of the museum of the University of Colorado. There were over 120 specimens in the lot, of all stages of growth, few of them full-grown; some also were in alcohol.

So far as can be judged, the present *Sphærium* is distinct from all described species, and except for the largest forms of *S. simile* Say, is the largest. The mussel is higher than in *simile*, the beaks narrower and more prominent, the shell and hinge are stouter, the sulcation coarser, and the color and surface appearance quite different.

There is a *Sphærium* from several parts of the Mississippi valley, somewhat smaller and more inflated, and partly of different outlines, regarded as distinct since 1896, but shelved. It may be a form of the present species, which was named in honor of its discoverer.

A few specimens were affected in the same way as those of *S. solidulum* Pr. from Iowa, recently described in the NAUTILUS.